



Appl. No. 10/526,308
Amdt. dated October 10, 2006
Reply to Office action of July 14, 2006

AMENDMENTS TO THE SPECIFICATION:

Please replace paragraph [0041] with the following amended paragraph:

[0041] Fig. 5 shows a further exemplary embodiment, showing the same detail as in Fig. 3. The end of the grooves 38 facing away from the combustion chamber is located here inside the annular groove 25, and the grooves 38 extend along the ~~jacket lines of the~~ second conical face 22. The embodiment of such grooves 38 is advantageous in the sense that from the standpoint of manufacture, it is difficult to embody the end of the grooves 38 facing away from the combustion chamber in such a way that it coincides precisely with the second edge 29. By embodying the end of the grooves 38 toward the combustion chamber approximately in the middle of the annular groove 25, with the grooves 38 extending beyond the second edge 29, problem-free manufacture of the grooves 38 is assured.

Please replace paragraph [0042] with the following amended paragraph:

[0042] Fig. 6 shows a further exemplary embodiment, showing the same detail as in Fig. 3. The left half of Fig. 6 shows an exemplary embodiment in which the grooves 38 are embodied in a curved C or S shape. Such a shape of the grooves 38 is advantageous from the standpoint that in the manufacturing process by means of a laser, the laser beam moves along the ~~jacket lines of the~~ second conical face 22 while the valve needle 5 is at rest. For making rectilinear grooves 38, the valve needle 5 must be kept constantly at rest, until the laser beam 5 makes the groove 38. This manufacturing process can be speeded up if the valve needle 5 is rotated continuously and the laser completes its motion under that condition, which makes it

possible to speed up the manufacturing process. The resultant grooves 38 are curved but still meet their purpose of preventing the pressure increase in the annular groove 25. The right half of Fig. 6 shows a further exemplary embodiment in which alternating grooves 38 have different lengths. Since the throttling is to be prevented essentially at the second edge 29 and in the immediate vicinity of the second conical face 22, a large cross section of the grooves 38 in this region is required. In the portions of the second conical face 22 located closer to the combustion chamber, relief by means of the grooves 38 is longer possible to that extent, so that only a few grooves 38 are sufficient there.